

IN THE CLAIMS:



(Currently amended) A laser scanning microscope comprising:

a dispersion element operable to spatially disperse an object light coming from an object under study;

at least one selectively switchable micro-mirror arrangement in a detection beam path which is used for the wavelength selection of ~~dispersively divided~~ the spatially dispersed object light wherein the selected wavelengths that have been ~~dispersively divided~~ spatially dispersed by the dispersion element are received by a detector, ~~the object light coming from the object under study.~~

2. (Previously amended) A combination comprising:

at least one micro-mirror arrangement with at least one dispersion element for wavelength-selective coupling in of illumination light in the direction of (the) object and wavelength-selective coupling out of object light in the direction of detection in a microscope, wherein a detector receives the selected wavelengths as dispersed by the dispersion element.

3. (Original) A method of using the combination as in claim 2 comprising the step of using said combination in a laser scanning microscope.

4. (Currently amended) An arrangement according to claim 1 ~~further comprising wherein the~~ dispersion element includes at least one of a grating and prism as ~~dispersion element~~.

Claims 5-6 (Cancelled).

Claims 7-9 (Withdrawn).

Claim 10 (Cancelled).

11. (Previously added) A microscope arrangement with a switchable mirror array comprising:
a detector pinhole operable to receive a detection beam coming from a sample under study;

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a dispersion element operable to spatially disperse the detection beam;
a switchable mirror arrangement operable to switch selected wavelengths of the spatially dispersed detection beam;
a focusing element operable to focus the selected wavelengths; and
a detector operable to receive the focused wavelengths that have been selected by the switchable mirror arrangement and spatially dispersed by the dispersion element.

12. (Previously added) The microscope arrangement according to claim 11 wherein the pinhole includes a second switchable mirror arrangement operable to adjust the size of the entrance aperture.

13. (Previously added) A microscope arrangement with a switchable mirror array, comprising:
a light source operable to produce a laser light;
a dispersion element;
a switchable mirror array, the dispersion element and the switchable mirror array being disposed in the beam path of the laser light;
wherein:

the dispersion element and the switchable mirror array act together to couple in selected wavelengths of the laser light toward a sample under study; and

a detection beam coming from the sample is dispersed by the dispersion element and the switchable mirror array couples in selected wavelengths of the dispersed detection beam for receipt by a detector, the detector receiving the selected wavelengths as dispersed by the dispersion element.

14. (Previously added) The microscope arrangement according to claim 13 wherein the dispersion element includes a fixed grating or a prism.

15. (Previously added) The microscope arrangement according to claim 13, further comprising a pinhole adapted to receive the coupled in selected wavelengths of the laser light.